

3/5

**MONITORING OF PROCESS ABNORMALITY AND APPARATUS THEREOF**

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**Abstract**

**PROBLEM TO BE SOLVED:** To automatically judge an abnormality in processes of a semiconductor wafer and judge the necessity or non-necessity of its review.  
**SOLUTION:** The apparatus stores defect/foreign matter coordinate data in a data storage means DB through a network Nt from an appearance detector GK and a foreign matter detector, converts the data in an X-Y coordinate system to divided elements in an  $r$ - $\theta$  coordinate system, computes a defect density in each of the divided elements at an operating part 9, and judges distribution abnormality based on a chi-square distribution. In the case of the distribution abnormality, the operating part 9 groups the distribution and computes an average value and a standard deviation for each of the defect density distributions in the groups, and compares these values with a preset conditional expression. A main controller 12, on the basis of an output received from the operating part 9, judges the necessity or non-necessity of its review. When judging the necessity of the review, the main controller 12 issues a signal to an alarm generator 10 to issue an alarm therefrom. The defect coordinate data is automatically transmitted to a review station, and the standard deviation and average are stored in the data storage means DB.

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